

**METHOD AND APPARATUS FOR CUTTING
DEVICES FROM SUBSTRATES**

ABSTRACT

- 5 [0072] A method and system for cutting a wafer comprising a semiconductor substrate attached to an array of integrated devices includes placing the wafer on a stage such as a movable X-Y stage including a vacuum chuck having a porous mounting surface, and securing the wafer during and after cutting by vacuum pressure through the pores. The wafer is cut by directing UV pulses of laser energy at the
- 10 substrate using a solid-state laser having controlled polarization. An adhesive membrane can be attached to the separated die to remove them from the mounting surface, or the die can otherwise be removed after cutting from the wafer.